

**REMARKS**

Please reconsider the application in view of the above amendments and the following remarks. Applicants thank the Examiner for carefully considering this application.

**Disposition of Claims**

Claims 1-34 were pending in the application. Claims 5-6, 14-15, 17, and 26-29 have been cancelled by this reply without prejudice or disclaimer. New claims 35-45 have been added by this reply. Accordingly, claims 1-4, 7-13, 16, 18-25, and 30-45 are now pending. Claims 1, 18, and 39 are independent. The remaining claims depend, directly or indirectly, from claims 1, 18, and 39.

**Claim Amendments**

Independent claims 1 and 18 were amended to clarify various aspects of the invention. Support for the amendments to claims 1 and 18 may be found, for example, in Figures 1, 2, and 7 and paragraphs [0026], [0027], [0028], [0031], [0033], [0034], and [0050] of the specification. Claims 2, 3, and 7-9 have been amended to address antecedent basis issues arising from the amendment of independent claim 1. Support for the aforementioned amendments to claims 2, 3, and 7-9 may be found, for example, in paragraphs [0024]-[0026], [0033], [0038]-[0039], [0041], [0043], and [0047] of the specification. Claims 21, 33, and 34 have been amended to address antecedent basis issues arising from the amendment of independent claim 18. Support for the aforementioned amendments to claims 21, 33, and 34 may be found, for example, in paragraphs [0024]-[0026], [0033], [0038]-[0039], [0041], [0043], and [0047] of the specification.

New dependent claims 35, 36, and 43 have been added by this reply. Support for new claims 35, 36, and 43 may be found, for example, in paragraph [0020], [0031], [0034], and [0047] of the specification.

New dependent claims 37, 38, and 43 have been added by this reply. Support for new claims 37, 38, and 43 may be found, for example, in paragraph [0027] of the specification. New independent claim 39 has been added by this reply. Support for new claim 39 may be found, for example, in Figures 1, 2, and 7 and paragraphs [0026], [0027], [0028], [0031], [0033], [0034], and [0050] of the specification.

New dependent claim 40 has been added by this reply. Support for new claim 40 may be found, for example, in originally filed claim 2. New dependent claim 41 has been added by this reply. Support for new claim 41 may be found, for example, in originally filed claim 3. New dependent-claim 42 has been added by this reply. Support for new claim 42 may be found, for example, in originally filed claim 4. New dependent claim 45 has been added by this reply. Support for new claim 45 may be found, for example, in originally filed claim 21. Applicants assert that no new matter has been added by any of the aforementioned amendments.

### **Rejections Under 35 U.S.C. § 112**

Claims 17 and 29 stand rejected under 35 U.S.C. § 112, ¶1 for failing to comply with the enablement requirement. Claims 17 and 29 have been cancelled by this reply. Accordingly, this rejection is now moot.

Claims 5, 14, 15, 17, 26, 27, and 29 stand rejected under 35 U.S.C. §112, ¶2 for failing to particularly point out and distinctly claim the subject matter which the Applicants regard as the

invention. Claims 5, 14, 15, 17, 26, 27, and 29 have been cancelled by this reply. Accordingly, this rejection is now moot.

### **Rejections Under 35 U.S.C. §101**

Claims 1-34 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 5-6, 14-15, 17, and 26-29 have been cancelled by this reply. Accordingly, this rejection is now moot with respect to cancelled claims 5-6, 14-15, 17, and 26-29. To the extent that this rejection applies to the pending claims, the rejection is respectfully traversed.

Independent claims 1 and 18 have been amended to clarify that the method and system generate an operational parameter for a cuttings injection process at a site. As discussed in the specification, operational parameters may include *e.g.*, batch size, the time between injections, the particle size and slurry rheology requirements, the volume of cuttings to inject into the formation, etc. (*See e.g.*, specification, [0027]). Applicant notes that a claimed invention as a whole must accomplish a practical application. That is, it must produce a “useful, concrete, and tangible result.” *State Street*, 149 F.3d at 1373, 47 USPQ2d at 1601-02. Applicants assert that the generation of operational parameters for a cuttings injection process at a site corresponds to a useful, tangible real-world result. Accordingly, amended independent claims 1 and 18 now satisfy 35 U.S.C. § 101. Pending dependent claims satisfy 35 U.S.C. § 101 for at least the same reasons. Accordingly, withdrawal of this rejection is respectfully requested.

**Rejections Under 35 U.S.C. §102**

Claims 1-34 stand rejected under 35 U.S.C. § 102 as being anticipated by the article entitled "Historical Background on Performance Assessment for the Waste Isolation Pilot Plant" ("Rechard"). This rejection is now moot with respect to cancelled claims 5-6, 14-15, 17, and 26-29. To the extent that this rejection applies to the pending claims, the rejection is respectfully traversed.

Amended independent claims 1 and 18 require, in part,: (i) that the probability of creating a new fracture in a formation at the site is determined using the fracturing result and a probability model; (ii) that a fracturing simulation is performed using the probability (*i.e.*, the probability determined in (i)) to obtain disposal domain information; and (iii) that the operational parameter for the cuttings injections process at the site is generated using the disposal domain information.

Turning to the rejection, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). (*See* MPEP § 2131).

Rechard fails to disclose at least the following limitations of amended independent claims 1 and 18. Specifically, Rechard is completely silent with respect to a cuttings injection process as recited by the claims. From this, it logically follows that Rechard is completely silent with respect to generating an operational parameter associated with the cuttings injection process.

Further, contrary to the Examiner's assertion, there is no disclosure of "determining a probability of creating a new fracture..." in the first full paragraph of the second column on page 35 of Rechard. (*See* Office Action mailed April 27, 2007, pp. 6, 10). Rather, the aforementioned portion of Rechard merely discloses general methodologies for obtaining probabilities and is

completely silent with respect to determining a probability of creating a new fracture in the formation at the site.

Finally, contrary to the Examiner's assertion, there is no disclosure of performing fracturing simulations using the probability (*i.e.*, the probability of creating a new fracture in the formation) in the last paragraph of the second column on page 35 of Rechard. (*See* Office Action mailed April 27, 2007, pp. 6, 10). Rather, the aforementioned portion of Rechard merely discloses general methodologies for obtaining probabilities and is completely silent with respect to performing any fracturing simulations using the probability (*i.e.*, the probability of creating a new fracture in the formation).

In view of the above, Rechard fails to disclose all the limitations of amended independent claims 1 and 18. Accordingly, amended independent claims 1 and 18 are patentable over Rechard. Pending dependent claims are patentable over Rechard for at least the same reasons as amended independent claims 1 and 18. Accordingly, withdrawal of this rejection is respectfully requested.

### **New Claims**

New dependent claims 35-38 have been added by this reply. New claims 35-38 depend from amended independent claims 1 and 18, respectively. Accordingly, new dependent claims 35-38 are allowable over Rechard for at least the same reasons as amended independent claims 1 and 18.

New independent claim 39 has been added by this reply. New independent claim 39 includes limitations similar to those found in amended independent claim 1 and, thus, is patentable over Rechard for at least the same reasons as amended independent claim 1. New dependent claims

40-45 have been added by this reply. New claims 40-45 depend from new independent claim 39. Accordingly, new dependent claims 40-45 are allowable over Rechard for at least the same reasons as new independent claim 39. Accordingly, favorable action in the form of a Notice of Allowability is respectfully requested for the new claims.

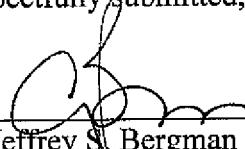
### Conclusion

Applicants believe this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number: 05542/040001).

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Respectfully submitted,

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